As a below named inventor, I hereby declare that:

[X]	original
[]	divisional
[]	continuation
Γī	continuation-in-part

This declaration is of the following type:

INVENTORSHIP IDENTIFICATION

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TITLE OF INVENTION

ATOMIC LAYER DEPOSITION APPARATUS

SPECIFICATION IDENTIFICATION

The specification of which:

executed on	ovon do	
	even ua	ιte
	filed o	on
_		filed (

ACKNOWLEDGMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR

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[X] In compliance with this duty there is attached an Information Disclosure Statement in accordance with 37 CFR §1.98.

PRIORITY CLAIM (35 U.S.C. §119)

[X]

[]

Serial No.

before	that of the	application	(s) of which priority is cla	imed.	
	[X] No such applications have been filed.				
	[]	Such appli	cations have been filed as	follows:	
A.			application(s) filed with under 35 U.S.C. §119	in 12 mos. (6 mos. for de	sign) prior to this application, and
	Count	ry/PCT	Application No	Date Filed	Priority Claimed
					[] Yes [] No [] Yes [] No [] Yes [] No
В.		eign applica plication	tion(s), if any, filed more	than 12 mos. (6 mos for o	design) prior to this
	Country Applica Filing d	tion No:			
C.	U.S. Pr	ovisional A _l	pplication filed within 12	months prior to this app	lication
			Serial No.	Filing Dat	<u>te</u>
			PRIORITY CI	LAIM (35 U.S.C. §120)	
PCT int subject manner disclose substant applicat	matter of provided informattial likelicion to iss	al application f each of the d by the first ation that is about that a sue as a pate	n(s) designating the Unite ne claims of this applicate at paragraph of Title 35, material to the examinate reasonable Examiner we	d States of America that is tion is not disclosed in the United States Code, Sectition of this application (rould consider it importan	any United States application(s) or s/are listed below and, insofar as the nat/those prior application(s) in the ion 112, I acknowledge the duty to namely, information where there is it in deciding whether to allow the prior application(s) and the national

POWER OF ATTORNEY

Patented Pending

Status

Abandoned

I hereby appoint the following attorneys and/or agents to prosecute this application and transact all business in the Patent and Trademark Office connected therewith:

Donald Verplancken	Registration No. 33,217
Peter J. Sgarbossa	Registration No. 25,610
Lawrence Edelman	Registration No. 25,226
Raymond Kam-On Kwong	Registration No. 37,165
James C. Wilson	Registration No. 35.412

No such applications have been filed

Filing Date

Such application have been filed, as follows:

Registration No. 29,301 Michael B. Einschlag Robert W. Mulcahy Registration No. 25,436 Walter Benjamin Glenn Registration No. 44,713 Joseph Bach Registration No. 37,771 B. Todd Patterson Registration No. 37,906 Raymond R. Moser, Jr. Registration No. 34,682 Registration No. 32,008 Keith M. Tackett Joseph Pagnotta Registration No. 39,322

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Patent Counsel

Patricia A. Verlangieri

APPLIED MATERIALS, INC.

THOMASON, MOSER & PATTERSON, L.L.P.

P. O. Box 450-A

Telephone No. 732-530-9404

Santa Clara, CA 95052

DECLARATION

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Full name of sole or first inventor: BARRY L. CHIN Bon L. Chi 13174 Cumberland Drive Date: 1/23/01 Inventor's signature: Residence: Saratoga, CA 95070 Post Office Address: Same as above Country of Citizenship: U.S.A. Full name of second inventor: ALFRED W. MAK Inventor's signature: 32722 Fellows Court Residence: Union City, CA 94587 Post Office Address: Same as above Country of Citizenship: U.S.A. Full name of third inventor: LAWRENCE CHUNG-LAI LEI

Inventor's signature:

Date:

Residence:

1594 Country Club Drive Milpitas, CA 95035

Post Office Address:

Same as above

Country of Citizenship: U.S.A.

Residence:

Post Office Address:

Inventor's signature: Date: Residence: 151 Churchill Avenue Palo Alto, CA 94306 Post Office Address: Same as above Country of Citizenship: P.R. of China Full name of fifth inventor: HUA CHUNG Inventor's signature: Date: Residence: 4645 Piper Drive San Jose, CA 95129 Post Office Address: Same as above Country of Citizenship: Taiwan Full name of sixth inventor: KEN KAUNG LAI Inventor's signature: Date: 1354 Terra Alta Drive Residence: Milpitas, CA 95035 Post Office Address: Same as above Country of Citizenship: Taiwan Full name of seventh inventor: JEONG SOO BYUN Inventor's signature: Date:

20975 Valley Green Drive #257

Cupertino, CA 95014

Same as above

Full name of fourth inventor: MING XI

As a below named inventor, I hereby declare that:

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	Country/P	<u>PCT</u>	Application No	<u>Da</u>	te Filed	<u>Prior</u>	rity Claimed
						į į ,	Yes [] No Yes [] No Yes [] No
В.	All foreign U.S. applic		on(s), if any, filed m	ore than 12 m	os. (6 mos f	or design) prior	to this
	Country: Application Filing date:						
C.	U.S. Provis	sional App	olication filed within	12 months p	rior to this a	application	
			Serial No.		Filing	<u>Date</u>	
			PRIORITY	CLAIM (35	U.S.C. §120)	
I hereby claim the benefit under Title 35, United States Code, Section 120, of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose information that is material to the examination of this application (namely, information where there is substantial likelihood that a reasonable Examiner would consider it important in deciding whether to allow the application to issue as a patent) which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application.							
			lications have been fi tion have been filed,				
	<u>Serial No</u> .	<u>Filii</u>	ng Date	Patented Pe		tatusAbandoned	

POWER OF ATTORNEY

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Full name of sole or first inventor: BARRY L. CHIN

APPLIED MATERIALS, INC.

P. O. Box 450-A Santa Clara, CA 95052 Patricia A. Verlangieri

THOMASON, MOSER & PATTERSON, L.L.P.

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Inventor's signature:		Date:
Residence:	13174 Cumberland Drive Saratoga, CA 95070	Date.
Post Office Address:	Same as above	Country of Citizenship: U.S.A.
Full name of second in	ventor: ALFRED W. MAK	
Inventor's signature: Residence:	32722 Follows Court Union City, CA 94587	Date: 7 25 0
Post Office Address:	Same as above	Country of Citizenship: U.S.A.
Full name of third inve	entor: LAWRENCE CHUNG-LAI LEI	
Inventor's signature:		Date:
Residence:	1594 Country Club Drive Milpitas, CA 95035	
Post Office Address:	Same as above	Country of Citizenship: U.S.A.

Full name of fourth inventor: MING XI

Inventor's signature:		Date:
Residence:	151 Churchill Avenue Palo Alto, CA 94306	
Post Office Address:	Same as above	Country of Citizenship: P.R. of China
Full name of fifth inve	ntor: HUA CHUNG	
Inventor's signature: Residence:	4645 Piper Drive San Jose, CA 95129	Date:
Post Office Address:	Same as above	Country of Citizenship: Taiwan
Full name of sixth inve	entor: KEN KAUNG LAI	
Inventor's signature: Residence:	1354 Terra Alta Drive Milpitas, CA 95035	Date:
Post Office Address:	Same as above	Country of Citizenship: Taiwan
Full name of seventh in	nventor: JEONG SOO BYUN	
Inventor's signature: Residence:	20975 Valley Green Drive #257 Cupertino, CA 95014	Date:
Post Office Address:	Same as above	Country of Citizenship: South Korea

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was filed on	, under Serial No.	, executed	on even date
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and was amended on	(if applicable)		
was described and claimed in P	CT International Application No.		filed on
and as amende	ed under PCT Article 19 on		
	was filed on herewith; or Express Mail No. and was amended on was described and claimed in P	was filed on, under Serial No. herewith; or (Serial No. not yet known)	was filed on, under Serial No, executed of herewith; or Express Mail No (Serial No. not yet known) and was amended on (if applicable) was described and claimed in PCT International Application No

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PRIORITY CLAIM (35 U.S.C. §119)

before	that of the a	pplicatio	n(s) of which priority	is claimed				
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Α.			application(s) filed s under 35 U.S.C. §1		2 mos. (6 mos.	for design) p	prior to this application, and	
	Country/	PCT	Application No		Date Filed		Priority Claimed	
							[] Yes [] No [] Yes [] No [] Yes [] No	
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	Country: Application Filing date							
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			Serial No.		Fil	ing Date		
			PRIORIT	Y CLAIN	1 (35 U.S.C. §	120)		
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			oplications have been cation have been filed		vs:			
	Carial N-	17	ilina Data	<u></u>	tod Dondin -	Status	lanad	
	<u>Serial No</u> .	<u>r</u>	iling Date	raten	ted Pending	<u>Aband</u>	<u>ionea</u>	

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3 of 4

Full name of fourth inventor: MING XI

Inventor's signature:		Date:
Residence:	151 Churchill Avenue Palo Alto, CA 94306	
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Post Office Address:

Same as above

Full name of fourth inventor: MING X1

Date: 7/24/01 Inventor's signature: Residence: Palo Alto, CA 94306 Post Office Address: Same as above Country of Citizenship: P.R. of China Full name of fifth inventor: HUA CHUNG Inventor's signature: Date: Residence: 4645 Piper Drive San Jose, CA 95129 Post Office Address: Same as above Country of Citizenship: Taiwan Full name of sixth inventor: KEN KAUNG LAI Inventor's signature: Date: Residence: 1354 Terra Alta Drive Milpitas, CA 95035 Post Office Address: Same as above Country of Citizenship: Taiwan Full name of seventh inventor: JEONG SOO BYUN Inventor's signature: Date: Residence: 20975 Valley Green Drive #257 Cupertino, CA 95014

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							[] Y	es []	No No No
В.		eign applica	tion(s), if any, filed	more tha	n 12 mos. (6 m	os for design) prior	to this	
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			Serial No.		<u>Fi</u>	ling Date			
							_		
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PCT in subject manne discloss substant applica	nternation t matter or provide se inform ntial like ation to is	al application of each of the dot by the firmation that is lihood that assue as a pat	inder Title 35, United in(s) designating the late claims of this appets paragraph of Title material to the examinate reasonable Examinate of this application.	United Standard Standard St. United Mination of the would between	ates of Americ is not disclose ed States Cod of this applic consider it in	a that is/are li ed in that/tho e, Section 11 ation (namely nportant in d	sted bel se prior 2, I ack , informations	low and, in applicate applicate applicate application with the application with the application applic	insofar as the tion(s) in the e the duty to here there is to allow the
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	Serial]	<u>No</u> . <u>F</u>	iling Date	Pater	nted Pending	Status_ <u>Abanc</u>	loned		
			POV	VER OF	ATTORNEY				
I hereb	ov annoin	t the followi	ng attorneys and/or a	agents to	prosecute this	application a	nd trans	act all bu	isiness in the

I hereby appoint the following attorneys and/or agents to prosecute this application and transact all business in the Patent and Trademark Office connected therewith:

Donald Verplancken	Registration No. 33,217
Peter J. Sgarbossa	Registration No. 25,610
Lawrence Edelman	Registration No. 25,226
Raymond Kam-On Kwong	Registration No. 37,165
James C. Wilson	Registration No. 35,412

Michael B. Einschlag Registration No. 29,301 Robert W. Mulcahy Registration No. 25,436 Walter Benjamin Glenn Registration No. 44,713 Joseph Bach Registration No. 37,771 B. Todd Patterson Registration No. 37,906 Raymond R. Moser, Jr. Registration No. 34,682 Keith M. Tackett Registration No. 32,008 Joseph Pagnotta Registration No. 39,322

Send correspondence to:

Direct telephone calls to:

Patent Counsel

Full name of sole or first inventor: BARRY L. CHIN

Patricia A. Verlangieri

APPLIED MATERIALS, INC. P. O. Box 450-A

THOMASON, MOSER & PATTERSON, L.L.P.

P. O. Box 450-A Santa Clara, CA 95052 Telephone No. 732-530-9404

DECLARATION

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and, further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Sec. 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patents issued thereon.

Inventor's signature: Residence:	13174 Cumberland Drive Saratoga, CA 95070	Date:
Post Office Address:	Same as above	Country of Citizenship: U.S.A.
Full name of second in	ventor: ALFRED W. MAK	
Inventor's signature: Residence:	32722 Fellows Court Union City, CA 94587	Date:
Post Office Address:	Same as above	Country of Citizenship: U.S.A.
Full name of third inve	ntor: LAWRENCE CHUNG-LAI LEI	
Inventor's signature: Residence:	1594 Country Club Drive Milpitas, CA 95035	Date:
Post Office Address:	Same as above	Country of Citizenship: U.S.A.

Inventor's signature:

Post Office Address:

Residence:

Inventor's signature: Date:_ Residence: 151 Churchill Avenue Palo Alto, CA 94306 Post Office Address: Same as above Country of Citizenship: P.R. of China Full name of fifth inventor: HUA CHUNG Date: Inventor's signature: Residence: San Jose, CA 95129 Post Office Address: Same as above Country of Citizenship: Taiwan Full name of sixth inventor: KEN KAUNG LAI Inventor's signature: Date: Residence: 1354 Terra Alta Drive Milpitas, CA 95035 Post Office Address: Same as above Country of Citizenship: Taiwan Full name of seventh inventor: JEONG SOO BYUN

20975 Valley Green Drive #257

Cupertino, CA 95014

Same as above

Date:

Country of Citizenship: South Korea

Full name of fourth inventor: MING XI

As a below named inventor, I hereby declare that:

[X]	original
[]	divisional
[]	continuation
ΙĪ	continuation-in-part

This declaration is of the following type:

INVENTORSHIP IDENTIFICATION

My residence, post office address and citizenship are as stated below next to my name. I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

TITLE OF INVENTION

ATOMIC LAYER DEPOSITION APPARATUS

SPECIFICATION IDENTIFICATION

The specification of which:

[X]	filed herewith;			
[]	was filed on	_, under Serial No.	, executed	on even date
	herewith; or			
[]	Express Mail No.	(Serial No. not yet known)		
	and was amended on	(if applicable)		
[]	was described and claimed in F	PCT International Application No.		filed on
	and as amende	ed under PCT Article 19 on	<u> </u>	

ACKNOWLEDGMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose all information I know to be material to patentability in accordance with Title 37, Code of Federal Regulations, §1.56, and which is material to the examination of this application; namely, information where there is a substantial likelihood that a reasonable Examiner would consider it important in deciding whether to allow the application to issue as a patent, and

[X] In compliance with this duty there is attached an Information Disclosure Statement in accordance with 37 CFR §1.98.

PRIORITY CLAIM (35 U.S.C. §119)

Country: Application No: Filing date:

		• •			
	[X]	No such a	applications have been filed		
	[]	Such app	lications have been filed as	follows:	
Α.		_	Γ application(s) filed with ns under 35 U.S.C. §119	in 12 mos. (6 mos. for des	ign) prior to this application, and
	Cour	ntry/PCT	Application No	Date Filed	Priority Claimed
					[] Yes [] No [] Yes [] No [] Yes [] No
В.		eign applic pplication	ation(s), if any, filed more	than 12 mos. (6 mos for d	esign) prior to this

C. U.S. Provisional Application filed within 12 months prior to this application

before that of the application(s) of which priority is claimed.

Serial No.	Filing Date

PRIORITY CLAIM (35 U.S.C. §120)

I hereby claim the benefit under Title 35, United States Code, Section 120, of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose information that is material to the examination of this application (namely, information where there is substantial likelihood that a reasonable Examiner would consider it important in deciding whether to allow the application to issue as a patent) which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application.

[X] N	o such applications have be	een filed		
[] Si	uch application have been f	filed, as follows:		
			Status	
Serial No.	Filing Date	Patented Pending	Abandoned	

POWER OF ATTORNEY

I hereby appoint the following attorneys and/or agents to prosecute this application and transact all business in the Patent and Trademark Office connected therewith:

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P. O. Box 450-A

Full name of sole or first inventor: BARRY L. CHIN

Same as above

Telephone No. 732-530-9404

Santa Clara, CA 95052

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Full name of second invo	entor: ALFRED W. MAK	
Inventor's signature: Residence:	32722 Fellows Court Union City, CA 94587	Date:
Post Office Address:	Same as above	Country of Citizenship: U.S.A
Full name of third inven	tor: LAWRENCE CHUNG-LAI LEI	
Inventor's signature: Residence:	1594 Country Club Drive Milpitas, CA 95035	Date:

Post Office Address:

Same as above

Full name of fourth inventor: MING XI

Residence:	151 Churchill Avenue	
	Palo Alto, CA 94306	
Post Office Address:	Same as above	Country of Citizenship: P.R. of China
Full name of fifth inventor	r: HUA CHUNG	
Inventor's signature: Residence:	4645 Piper Drive San Jose, CA 95129	Date:
Post Office Address:	Same as above	Country of Citizenship: Taiwan
Full name of sixth invento	r: KEN KAUNG LAI	
Inventor's signature:	1354 Terra Alfa Drive Milpitas, CA 95035	Date: 7/2 3/200
Post Office Address:	Same as above	Country of Citizenship: Taiwan
Full name of seventh inver	ntor: JEONG SOO BYUN	
	20975 Valley Green Drive #257 Cupertino, CA 95014	Date:

As a below named inventor, I hereby declare that:

This	declaration	is of the	following	type:
	[X]	origina	i	

[] divisional
[] continuation
[] continuation-in-part

INVENTORSHIP IDENTIFICATION

My residence, post office address and citizenship are as stated below next to my name. I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

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The specification of which:

[X]	filed herewith;	
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	and as amended under PCT Article 19 on	

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PRIORITY CLAIM (35 U.S.C. §119)



before that of the application(s) of which priority is claim
--

[X] No	such	applications	have	been	filed.
--------	------	--------------	------	------	--------

[] Such applications have been filed as follows:

A. Prior foreign/PCT application(s) filed within 12 mos. (6 mos. for design) prior to this application, and any priority claims under 35 U.S.C. §119

Country/PCT	Application No	Date Filed	Priority Claimed	
			[] Yes [] No [] Yes [] No	

B. All foreign application(s), if any, filed more than 12 mos. (6 mos for design) prior to this U.S. application

Country:
Application No:
Filing date:

C. U.S. Provisional Application filed within 12 months prior to this application

Serial No.	Filing Date	

PRIORITY CLAIM (35 U.S.C. §120)

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Serial No	. Filing Date	Patented Pending	<u>Abandoned</u>	-

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Post Office Address:

Same as above

Full name of fourth inventor: MING XI

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Full name of seventh in	ventor: JEONG SOO BYUN	
Inventor's signature: Residence:	20975 Valley Green Drive #257 Cupertino, CA 95014	Date: 7/24/0/